

EXHIBIT BB

PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

June 30, 2017 Actuarial Valuation Report

PRGERS net assets became negative in the 2014-2015 fiscal year. PRGERS gross assets as of June 30, 2017 are less than one year of expected benefit payments.

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1550 Liberty Ridge Drive
Suite 200
Wayne, PA 19087-5572

Tel +1 610 687.5644
Fax +1 610.687.4236

www.milliman.com

March 26, 2019

Mr. Luis M. Collazo Rodríguez, Esq.
Administrator
Puerto Rico Government Employees and
Judiciary Retirement System Administration
437 Ponce de León Avenue
Hato Rey, PR 00918

Dear Mr. Collazo:

This report presents the results of the actuarial valuation of the Puerto Rico Government Employees Retirement System (PRGERS), a cost-sharing multiple employer defined benefit pension plan, as of June 30, 2017. Section I contains highlights of the valuation including a general discussion. The subsequent Sections contain schedules summarizing the underlying calculations, asset information, participant data, plan benefits and actuarial assumptions and methods.

Purpose

The main purposes of this report are:

- to present information pertaining to the operation of the plan for inclusion in financial statements based on relevant Statements of the Government Accounting Standards Board (GASB);
- to review the experience under the plan since the previous valuation; and
- to assess the relative funded position of the plan.

The use of this report for purposes other than those stated above may not be appropriate and should be reviewed with Milliman.

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The report was prepared solely to provide assistance to the Commonwealth of Puerto Rico Government Employees Retirement System for a specific and limited purpose. It is a complex, technical analysis that assumes a high level of knowledge concerning PRGERS' operations, and uses PRGERS' data, which Milliman has not audited. Milliman and PRGERS do not intend to benefit and assume no duty or liability to other parties who receive this report. Milliman and PRGERS recommend that any third party recipient of this report be aided by its own actuary or other qualified professional when reviewing the Milliman report. Any distribution of this report should be made in its entirety.

Data Reliance

In performing this analysis, we relied on the census data, asset information, and other information (both written and oral) provided by the System. We have not audited or verified the census data, asset information, or other information. To the extent that any of these are inaccurate or incomplete, the results of this valuation may likewise be inaccurate or incomplete.

We did not audit the data used in our analysis, but did review it for reasonableness and consistency and have not found material defects in the data. It is possible that material defects in the data would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

The asset information used for the valuation was taken from unaudited financial statements as of June 30, 2017 provided by PRGERS on December 5, 2018 and is subject to change upon audit.

Future Measurements

This valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

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Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as the following:

- Plan experience differing from the actuarial assumptions;
- Future changes in the actuarial assumptions;
- Increases or decreases expected as part of the natural operation of the methodology used for these measurements; and,
- Changes in the plan provisions or accounting standards.

Due to the limited scope of our assignment, we did not perform an analysis of the potential range of such measurements.

Certification

We hereby certify that, to the best of our knowledge, this report is complete and accurate and all costs and liabilities were determined in conformance with generally accepted actuarial principles and practices which are consistent with the Actuarial Standards of Practice promulgated by the Actuarial Standards Board and the applicable Guides to Professional Conduct, amplifying Opinions, and supporting recommendations of the American Academy of Actuaries and are based on actuarial assumptions and methods adopted by the System. All of the actuarial assumptions were developed by Milliman in consultation with PRGERS. We believe that the actuarial assumptions and methods used in this actuarial valuation are reasonable for the main purposes of this report as stated herein.

Actuarial computations presented in this report are for purposes of fulfilling financial accounting requirements under the GASB Statements 45 and 67. The calculations in the enclosed report have been made on a basis consistent with our understanding of the plan provisions described in Section VII of this report, and of the applicable GASB Statements. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

This valuation reflects the law in effect as of June 30, 2017, as required by GASB accounting. As a known event, the impact of Act 106-2017, effective August 23, 2017 is reflected as well. The impacts of Act 211-2015 and Act 170-2016 are not yet fully known, along with any other prospective legislative changes.

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Qualifications

The consultants who worked on this assignment are retirement actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

We are members of the Society of Actuaries and meet the qualification standards of the American Academy of Actuaries to render this actuarial opinion.

Respectfully submitted,



By: Glenn D. Bowen, F.S.A.
Member American Academy of Actuaries



Timothy J. Nugent, F.S.A.
Member American Academy of Actuaries



Katherine A. Warren, F.S.A.
Member American Academy of Actuaries

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION I – SUMMARY

A. Summary of Principal Results of June 30, 2017 Actuarial Valuation

GASB 67 Accounting (\$ amounts in thousands)

	June 30, 2016 <u>Valuation</u>	June 30, 2017 <u>Valuation</u>
Total Pension Liability ¹		
Basic System Benefits	\$33,266,983	\$27,372,883
System Administered Benefits	<u>3,165,890</u>	<u>2,718,943</u>
Total	36,432,873	30,091,826
Net Fiduciary Position	(1,265,885) ²	(2,108,880)
Net Pension Liability	37,698,758	32,200,706

GASB 45 Accounting (\$ amounts in thousands)

	June 30, 2016 <u>Valuation</u>	June 30, 2017 <u>Valuation</u>
Actuarial Accrued Liability ¹	\$1,349,503	\$1,138,309
Actuarial Value of Assets	<u>0</u>	<u>0</u>
Unfunded Actuarial Accrued Liability	1,349,503	1,138,309
Employer Normal Cost	0	0
as a percent of payroll	0.00%	0.00%
Annual Required Contribution		
for upcoming fiscal year	105,859	93,320
as a percent of payroll	3.17%	2.79%

¹ A discussion of the benefits included in the Total Pension Liability and Actuarial Accrued Liability begins on page 3 of this section.

² Reflects updated assets as shown in addendum to June 30, 2016 valuation report dated October 23, 2018.

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	July 1, 2015 Census Data <u>Collection</u>	July 1, 2016 Census Data <u>Collection</u>
<i>Participant Data</i>		
<u>Active Members</u>		
Number	119,679	118,657
Average Salary	\$27,945	\$28,184
Total Annual Salary	\$3,344,382,000	\$3,344,197,000
<u>Retirees</u>		
Number	94,979	94,071
Average Monthly Basic System Benefit	\$1,096	\$1,096
Average Monthly System Administered Benefit	\$66	\$64
<u>Disabled Members</u>		
Number	15,444	14,722
Average Monthly Basic System Benefit	\$503	\$498
Average Monthly System Administered Benefit	\$121	\$123
<u>Beneficiaries</u>		
Number	14,670	13,964
Average Monthly Basic System Benefit	\$386	\$393
Average Monthly System Administered Benefit	\$55	\$55

Basic System Benefit and System Administered Benefit amounts shown above are for pension benefits, including minimum benefits and COLAs, and excludes benefits payable at a later date to Law 70 Section 4B retirees. Special Law "bonus" benefits are not reflected.

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION I – SUMMARY

B. General Discussion

Basic System Benefits

As summarized in Section VII, the Puerto Rico Government Employees Retirement System (PRGERS) provides benefits to members, or their beneficiaries, upon:

- Retirement
- Disability
- Vested withdrawal
- Death
- Nonvested withdrawal (return of contributions)

These benefits will be referred to as the “Basic System Benefits” throughout this report.

For members who retired prior to July 1, 2013 annuity benefits are subject to a \$500 monthly minimum. The amount in excess of \$200 and less than \$300 is a System Administered Benefit (see below) for all employees. The amount in excess of \$300 and less than \$400 is a System Administered Benefit for Public Corporation and Municipality employees.

System Administered Benefits

Also summarized in Section VII are benefits granted under a series of special laws that are administered by PRGERS, including:

- Additional minimum pension benefits (if retired prior to July 1, 2013)
- Ad-hoc cost-of-living adjustments (COLAs) provided in past years
- Additional benefits due to death or disability for reasons specified in Act 127-1958
- Medical insurance plan contribution (if retired prior to July 1, 2013)
- Christmas bonus (if retired prior to July 1, 2013)
- Medication bonus (if retired prior to July 1, 2013)

System 2000 and Act 3 participants, other than those members receiving a disability annuity or receiving benefits under Act 127-1958, do not receive any System Administered Benefits.

These benefits will be referred to as “System Administered Benefits” throughout this report.

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SECTION I – SUMMARY

Other Benefits

This report does not address the guarantee insurance reserve for life insurance on loans to plan members. (Please see Notes to Basic Financial Statements on pages 21 and 58 and Statement of Fiduciary Net Position on page 17 of the System's June 30, 2016 Basic Financial Statements.)

Gross vs. Net Assets

As shown in Section II.C, gross assets equal \$1.07 billion as of June 30, 2017, while net assets equal *negative* \$2.11 billion as of the same date. The difference between the gross and net assets arises from a \$3.18 billion liability for "bonds payable" (shown in Section II.A). The System issued pension obligation bonds in 2008 and retains the liability to service the pension obligation bond debt.

System Experience since Prior Valuation

The approximate actual rate of return on gross assets was 8.74% for 2016-2017. Net assets are negative as of June 30, 2017, so it is no longer mathematically possible to determine a rate of return on net assets during the prior fiscal year.

Our analysis of System experience from June 30, 2016 to June 30, 2017 resulted in a liability gain of \$0.2 billion (e.g. – the original June 30, 2016 Total Pension Liability of \$36.4 billion was expected to increase to \$36.5 billion as of June 30, 2017, and instead decreased to \$36.3 billion, prior to the changes in assumptions and provisions).

Major sources of gains and losses from the June 30, 2016 valuation to the June 30, 2017 valuation are as follows:

1. \$50 million loss on new entrants.
2. \$70 million loss on roughly 530 "pop-up" retirees who were not in the prior year census data.
3. \$150 million gain on roughly 5,000 deaths among retirees and beneficiaries.
4. \$60 million loss on roughly 880 active members who retired during the one-year period.
5. \$60 million gain on roughly 2,000 active members terminating employment.

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SECTION I – SUMMARY

For Item 2, the entire \$70 million is not a loss to the extent that these new retirees were previously included in the deferred vested liability. However, we cannot determine what portion of the 530 retirees emerged from deferred vested status since deferred vested census data is not complete and the deferred vested liability is developed by placing a loading assumption on System liabilities to account for deferred vested members.

Change in Assumptions since Prior Valuation

Based on GASB 67 parameters and the depletion of System assets, the discount rate is based on a bond market index. PRGERS has selected the Bond Buyer General Obligation 20-Bond Municipal Bond Index for this purpose. The index rate increased from 2.85% as of June 30, 2016 to 3.58% as of June 30, 2017. The investment return assumption is no longer applicable.

This valuation reflects a decrease from 3.00% to 2.90% per year in the investment return assumption for GASB 45 purposes. The 2.90% assumption reflects Milliman's capital market assumptions as of June 30, 2017 and assumes that the Commonwealth's General Fund (the assets used to pay the GASB 45 benefits) is invested approximately in 75% cash and 25% short-term bonds.

The projected mortality improvement scale was updated from Scale MP-2016 to Scale MP-2017 to reflect the projected mortality improvement scale issued in the valuation year.

The percentage of current service and disability retirees who retired before July 1, 2013 who are assumed to receive a monthly medical insurance continuation benefit of \$100 per month has been decreased from 85% to 75%.

On account of the decrease in Act 447 and Act 1 membership count along with the mandatory annuitization of hybrid plan account balances under Act 3-2013, the increase applied to actuarial accrued liabilities to approximate the value of the liability on behalf of deferred vested participants has been reduced from 5% to 2.5% and is now applied to System 2000 and Act 3 liabilities in addition to Act 447 and Act 1 liabilities.

The amount of the return of contributions due to former members as of June 30, 2017 was based on the actual June 30, 2017 amount (formerly a trailing three-year average of actual amounts).

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Changes in Plan Provisions since Prior Valuation

Act 106-2017

Act 106-2017 was enacted on August 23, 2017 and impacts the benefits provided to PRGERS members as follows:

- New employees hired July 1, 2017 or later will be participants in a separate defined contribution plan and will not be PRGERS members.
- Effective July 1, 2017, current PRGERS members will no longer make any contributions to PRGERS. Prospectively, active members will participate in a separate defined contribution plan.

In addition to the benefit changes, Act 106-2017 provides that PRGERS will be funded on a pay-as-you-go basis. The following contributions are eliminated by Act 106-2017:

- Act 116-2011 employer contributions – was 15.525% of payroll in 2016-2017 and was scheduled to increase by 1.25% of payroll per year to an ultimate rate of 20.525% of payroll in 2020-2021 and later
- Act 32-2013 Additional Uniform Contribution – was \$776 million in 2016-2017 and projected as \$685 million from 2017-2018 to 2032-2033, with annual recalculations (only of portion of the annual amounts were collected in prior years)
- Act 3-2013 Supplemental Contributions – was \$2,000 for each pensioner (including beneficiaries receiving survivor benefits) who was previously benefitting as an Act 447 or Act 1 member while an active employee. The contribution paid for the Medical Insurance Plan Contribution (up to \$1,200 per member), the Christmas Bonus (\$200 per member), and Medication Bonus (\$100 per member) payable to members who retired prior to July 1, 2013. The excess of these Supplemental Contributions remained in the System to pay down the unfunded actuarial accrued liability.

Prior to July 1, 2017, credits to the notional Defined Contribution Hybrid Contribution Account included member contributions and interest credits based on the investment yield of the System's assets as determined by the Board. As discussed above, under Act 106-2017 members will no longer be contributing to PRGERS. In addition, with the switch to a pay-as-you-go basis for funding benefits, there will be no System assets to generate investment returns, and we have been informed that no future interest credits will be applied to members' Defined Contribution Hybrid Contribution Accounts beginning July 1, 2017 and later.

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Changes in Methods since the Prior Valuation

Because of Act 106-2017, no future benefits (except for the additional benefits due to death or disability for reasons specified in Act 127-1958) will be earned by PRGERS members. As a result, the GASB 67 Total Pension Liability equals the present value of all non-Act 127-1958 projected benefits. In future years, the service cost will only reflect the anticipated future Act 127-1958 benefits.

Overview of Recent Significant Changes in Plan Provisions

Act 3-2017

Act 66-2014 originally implemented a salary freeze for FY 2014-15 through FY 2016-17 for Central Government employees. The recent extension in Act 3-2017 freezes salaries for four additional years, through FY 2020-21.

Due to the Act 66-2014 required savings for public corporations and the current economic conditions in Puerto Rico, the extension of the salary freeze until July 1, 2021 was also assumed for public corporation and municipal employees. (This same assumption was used for the original Act 66-2014 salary freeze.)

Act 211-2015

Act 211-2015 is an early retirement incentive program that was passed on December 8, 2015. All employers participating in PRGERS (Central Government, Municipalities and Public Corporations) were eligible to apply to participate in Act 211-2015. Qualification was conditioned upon approval by the Office of Management and Budget ("OMB") of the agency's plan to implement such program and its impact on the agency.

Act 211-2015 states that employers who have outstanding debt with PRGERS must enter into a payment plan that includes using a portion of the employer's savings from Act 211-2015 in order to pay the outstanding debt.

Eligible employees are Act 447 members in PRGERS who have at least 20 years of service at the time of enrollment in the program, and who, except for Police, are not already eligible to retire under Act 447.

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Under Act 211-2015, employees who elect to participate in the program will receive a variety of benefits, some of which do not impact PRGERS. The benefits which impact PRGERS are as follows:

1. Contributions to the Defined Contribution Hybrid Program while enrolled in the program equal to 10% of the average compensation as of December 31, 2015, paid in full by the employer until the member reaches age 61. Note that employer contributions will also be paid to the System on this basis. However, all such contributions ceased July 1, 2017 due to Act 106-2017.
2. Upon death while enrolled in the program prior to age 61, participation in the program will end and the death benefits payable to survivors if any will be the same as for an active Act 447 member.
3. Upon attainment of age 61, the employee will begin collecting retirement benefits from PRGERS, with a guarantee at the time of retirement that the retirement benefit will be at least 50% of average compensation as of June 30, 2013 (60% for Puerto Rico Police provided the agency pays for the increase from 50% to 60%). Benefits for Coordination Plan members (which decrease upon attainment of Social Security Retirement Age) can never be less than 50% of average compensation as of June 30, 2013. The agency shall pay an additional contribution to PRGERS to cover the cost of providing this additional minimum benefit.

Act 170-2016

Act 170-2016 amended Act 211-2015 by expanding the eligible group of members to include additional eligible agencies and additional eligible members in all eligible agencies. Act 170-2016 did not change the benefits provided to the member nor does it change the methodology to calculate the cost for the participating employers. The impacts of Act 211-2015 and Act 170-2016 are not yet fully known.

Fiscal Plan

The *Fiscal Plan for Puerto Rico* (last revised October 23, 2018) was approved by the Puerto Rico Fiscal Board (a body created by the enactment of the Puerto Rico Oversight, Management, and Economic Stability Act (“PROMESA”)). Section 16.2.2 anticipates a 10% reduction in aggregate benefit payments, with an implementation date of July 1, 2019. As legislation has not been passed yet, these potential reductions are not reflected in this June 30, 2017 valuation.

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The Fiscal Plan does reflect that PRGERS will be funded on a pay-as-you-go basis once assets are exhausted.

Commentary on Pay-as-you-go (“paygo”) funding

Operating a retirement system on a paygo basis may be conceptually simple, but can be very difficult in practice when reserves are limited or non-existent. While the valuation of liabilities for financial reporting purposes is conducted on an annual basis in arrears, benefit payments vary continuously and respond instantaneously to emerging events. There are also administrative expenses incurred continuously, and very significant Pension Obligation Bond debt service.

Disbursements will experience natural variation due to emerging demographic experience and can also be greatly impacted by specific management decisions, such as an early retirement incentive program or other workforce reduction.

A major issue that needs to be addressed is determining what the process of budgeting for paygo funding will be. While an expected paygo amount can be set at the time of budgeting for an upcoming fiscal year, disbursements can vary from expectations during the fiscal year.

- If the budget is set based on expected disbursements, in the event of adverse experience during the fiscal year, will additional funds be available?
- Alternately, would the budget request include a margin to provide a buffer against adverse experience?
 - If so, consideration will need to be given to what level of margin should be included. Scenarios such as higher retirement activity and/or lower mortality rates could be modeled to provide a range of potential adverse outcomes.
 - Increased security comes at increased cost, and no specific margin guarantees protection against all circumstances.
- How would the impacts of specific management decisions be handled?
 - For instance, assume that the fiscal year paygo amount appears to be sufficient as of mid-year.
 - Then a reduction in workforce is announced, with an effective date of March 31.
 - In the final three months of the fiscal year, disbursements will be higher than expected as some members will take a refund of contributions upon

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termination, and other members who are retirement eligible will commence their annuity earlier than they had been expected to do so.

There are certainly many more operational details to be considered. We provide this limited commentary in order to point out that paygo operation is a complex issue that requires careful thought and planning, constant monitoring, and the ability to respond to emerging events quickly.

Early Retirement Incentive Contributions

The early retirement incentive contributions are reflected in the System's financial statements in the year of the incentive even though these contributions are typically scheduled to be paid by the employer to the System over many years. As directed by the System, the actual employer contributions for GASB 67 accounting reflect early retirement incentive contributions on an accrual basis to match the amounts shown in the System's financial statements.

GASB Pension Accounting Information

Pension accounting results in Section IV of this report have been prepared under GASB 67 parameters to determine a Total Pension Liability at the end of the fiscal year. The Net Fiduciary Position is then subtracted to arrive at the Net Pension Liability at the end of the fiscal year. The Net Pension Liability reflects the full amount of the unfunded liability, and thus can be significantly volatile from year to year.

GASB OPEB Accounting Information

Accounting results for the Medical Insurance Plan Contribution shown in Section V of this report are calculated under Governmental Accounting Standards Board Statement No. 45, *"Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions"* (GASB 45). (Note that the Medication Bonus has been included in the GASB 67 results as a Pension Benefit because members can receive the bonus without submitting documentation to substantiate medication expenses.)

There are no member or employer contributions on behalf of the Medical Insurance Plan Contribution. This benefit is financed on a pay-as-you-go basis from the General Fund of the Commonwealth of Puerto Rico. Since this benefit is not funded in advance, the

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SECTION I – SUMMARY

ARC for this benefit has been calculated based on an assumed investment return rate of 2.90% based on the asset allocation of the Commonwealth's general assets that are used to pay this benefit.

We note that, as a cost-sharing multiple employer plan, PRGERS is not required to report a Net OPEB Obligation. In accordance with paragraph 23 of GASB 45, the employers that participate in the plan should recognize annual OPEB expense equal to their contractually required contributions to the plan. The employers do not have an Annual Required Contribution (ARC) or a Net OPEB Obligation. (PRGERS reports an ARC for the system as a whole, not separate ARCs for the individual employers.) Any difference between contributions required and contributions made would produce an OPEB liability or asset at the employer level.

Note that GASB issued GASB 75 in June 2015 which makes changes to GASB 45 similar to how GASB 25/27 were updated by GASB 67/68. GASB 75 is effective beginning with the 2017-2018 fiscal year, unless earlier adoption occurs.

GASB 67 Projection to Determine Date of Depletion (if any)

GASB 67 requires that a projection be performed for the System to determine a date of depletion, if any, and the resulting effective discount rate. This complex projection is used to determine the point at which the System is expected to deplete assets per GASB 67. The analysis includes a projection of member and employer contributions, benefit payments, and administrative expenses attributable to current members. Amounts attributable to members hired in the future are excluded except to the extent that employer contributions exceed the cost of benefits for those future members. *Because the date of depletion projection does not incorporate all projected cash inflows to and outflows from the System, the results will differ from those in a comprehensive cash flow projection that models all inflows and outflows. In other words, the GASB 67 date of depletion is not the same as the date that the System would be expected to exhaust assets.*

Once a depletion date has been determined, it is used as an input in the determination of the accounting liability as follows:

- The present value of all future benefits for GASB 67 accounting purposes is determined as follows:
 - For projected benefit payments occurring prior to the date of depletion, the discount rate is based on the System's expected return on assets.

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION I – SUMMARY

- For projected benefit payments occurring after the date of depletion, the discount rate is based on a tax-free municipal bond index.
- Based on the resulting present value of all future benefits for GASB 67 accounting purposes, a single equivalent interest rate can be imputed that yields the same present value.

GASB 67 and its implementation guide do not address the mechanics of the date of depletion projection when the retirement system is the issuer of Pension Obligation Bonds (POBs) – e.g. whether the date of depletion projection should be performed on a gross assets or net assets basis. Typically, the governmental sponsor issues the POBs and contributes the proceeds to the retirement system. However, PRGERS issued the POBs and is responsible for repaying the interest and principal on the bonds. As directed by the Treasury Department, the Government Development Bank, and the System (after consultation with the auditor) at the outset of GASB 67, the asset basis for the date of depletion projection is the System's net assets (the gross assets less the Pension Obligation Bond proceeds). On this basis, net assets were exhausted in the 2014-2015 fiscal year and no calculation needs to be performed, as the tax-free municipal bond index applies in all years, and is thus the single equivalent interest rate that is used as the discount rate in the determination of the Total Pension Liability.

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION II - SYSTEM ASSETS

A. Statement of Fiduciary Net Position

	<u>June 30, 2016</u>	<u>June 30, 2017</u>
Assets		
Cash and cash equivalents	652,211,000	506,856,000
Receivables and prepaid expenses:		
Accounts receivable	290,741,000	53,919,000
Prepaid bond cost	<u>0</u>	<u>0</u>
Total receivables	290,741,000	53,919,000
Investments:		
Bonds and notes	445,891,000	104,963,000
Nonexchange commingled trust funds	219,585,000	0
Stocks	1,277,000	181,747,000
Investments in limited partnerships	47,461,000	0
Total loans to plan members	596,997,000	523,443,000
Alternative investment	0	87,020,000
COFINA investment	0	58,224,000
Other assets	<u>754,000</u>	<u>816,000</u>
Total investments	1,311,965,000	956,213,000
Invested securities lending cash collateral	19,754,000	7,359,000
Capital assets	9,733,000	9,902,000
Total assets	2,284,404,000	1,534,249,000
Liabilities		
Bonds payable	3,148,996,000	3,180,548,000
Securities lending cash collateral	19,754,000	7,359,000
Other liabilities	<u>381,539,000</u>	<u>455,222,000</u>
Total liabilities	3,550,289,000	3,643,129,000
Net position restricted for pensions	(1,265,885,000)	(2,108,880,000)

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION II - SYSTEM ASSETS

B. Statement of Changes in Fiduciary Net Position

June 30, 2017

Additions

a. Contributions

Employer Contributions	\$726,912,000
Member Contributions	320,095,000
Early Retirement Programs	0
Interest on cultural loans	202,000
Appropriations for Special Laws	<u>194,626,000</u>
Total Contributions	\$1,241,835,000

b. Investment Income

Interest Income	\$46,840,000
Dividend Income	253,000
Net Appreciation of Investments	(7,866,000)
Other Income	54,815,000
Investment Related Expenses	<u>(1,854,000)</u>
Net Investment Income	\$92,188,000

Total Additions \$1,334,023,000

Deductions

Refund of Contributions	\$35,229,000
Annuities and Death Benefits	1,328,411,000
Special Law Benefits	194,626,000
Interest on cultural loans	202,000
Administrative Expenses	26,142,000
Other Expenses	394,324,000
Cost of Bonds	<u>198,084,000</u>
Total deductions	\$2,177,018,000

Net Increase (Decrease) (\$842,995,000)

Net position restricted for pensions

Beginning of year (June 30, 2016)	(1,265,885,000)
End of year (June 30, 2017)	(2,108,880,000)

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION II - SYSTEM ASSETS

C. Estimated Annual Rate of Return for year ending June 30, 2017

	<u>Gross Asset Basis</u>	<u>Net Asset Basis</u>
1. Value of Assets as of June 30, 2016	\$1,883,111,000	(\$1,265,885,000)
2. Total Contributions	1,241,835,000	1,241,835,000
3. Benefit Payments and Expenses	2,177,018,000	2,177,018,000
4. Value of Assets as of June 30, 2017	1,071,668,000	(2,108,880,000)
5. Non-Investment Increment: (2) - (3)	(935,183,000)	(935,183,000)
6. Investment Increment: (4) - (1) - (5)	123,740,000	92,188,000
7. Time Weighted Value: (1) +.5 * (5)	1,415,519,500	(1,733,476,500)
8. Estimated Annual Rate of Return: (6) / (7)	8.74%	N/A

D. Estimated Historical Rates of Return

<u>Plan Year Ending</u>	<u>Gross Asset Basis</u>	<u>Net Asset Basis</u>
June 30, 2017	8.74%	N/A
June 30, 2016	5.69%	N/A
June 30, 2015	3.21%	N/A
June 30, 2014	8.46%	94.73%
June 30, 2013	7.88%	31.38%
5-year Compounded Annual Return	6.78%	N/A

Prior year returns were calculated by Milliman using the methodology in Section D above, based on asset amounts and cash flows shown in prior valuation reports.

The rates of return determined on a gross asset basis are for illustrative purposes only and assume non-investment cash flows are the same as that determined on a net asset basis. Because of the significant amount of Pension Obligation Bond proceeds that are currently invested (approximately \$3 billion), the net asset returns are significantly larger than the returns on a gross asset basis.

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION III - MANAGEMENT INFORMATION

A. Allocation of Liability by Pension Law and System Entity as of June 30, 2017

	<u>GASB 67 Total Pension Liability for:</u>			Actuarial
	Basic	System	Basic System	Accrued
	System	Administered	and System	Liability for
	<u>Benefits</u>	<u>Benefits</u>	<u>Administered</u>	<u>GASB 45</u>
			<u>Benefits</u>	<u>Benefits</u>
Government				
Act 447	\$13,215,459,000	\$1,175,894,000	\$14,391,353,000	\$671,996,000
Act 1	3,007,109,000	281,982,000	3,289,091,000	89,508,000
System 2000 / Act 3	<u>813,024,000</u>	<u>454,989,000</u>	<u>1,268,013,000</u>	<u>1,813,000</u>
	17,035,592,000	1,912,865,000	18,948,457,000	763,317,000
Public Corporations				
Act 447	6,095,657,000	469,192,000	6,564,849,000	200,200,000
Act 1	990,081,000	46,060,000	1,036,141,000	24,938,000
System 2000 / Act 3	<u>305,272,000</u>	<u>2,310,000</u>	<u>307,582,000</u>	<u>541,000</u>
	7,391,010,000	517,562,000	7,908,572,000	225,679,000
Municipalities				
Act 447	1,958,572,000	183,491,000	2,142,063,000	123,371,000
Act 1	706,624,000	58,610,000	765,234,000	25,546,000
System 2000 / Act 3	<u>281,085,000</u>	<u>46,415,000</u>	<u>327,500,000</u>	<u>397,000</u>
	2,946,281,000	288,516,000	3,234,797,000	149,314,000
Total				
Act 447	21,269,688,000	1,828,577,000	23,098,265,000	995,566,000
Act 1	4,703,813,000	386,654,000	5,090,467,000	139,992,000
System 2000 / Act 3	<u>1,399,382,000</u>	<u>503,712,000</u>	<u>1,903,094,000</u>	<u>2,751,000</u>
	\$27,372,883,000	\$2,718,943,000	\$30,091,826,000	\$1,138,309,000

(Numbers shown may not add due to rounding.)

System Administered Benefits for System 2000 and Act 3 members are enhanced death and disability benefits for hazardous duty employees covered by Act 127 and the related bonus benefits for these members. GASB 45 benefits are the medical insurance plan contributions for these members.

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION III - MANAGEMENT INFORMATION

B. Accumulated Member Contributions for Active Members as of July 1, 2016

	<u>Contribution Account Balances</u>
Government	
Act 447	\$569,765,000
Act 1	1,149,938,000
System 2000 / Act 3	<u>794,186,000</u>
	2,513,889,000
Public Corporations	
Act 447	224,993,000
Act 1	335,842,000
System 2000 / Act 3	<u>306,009,000</u>
	866,844,000
Municipalities	
Act 447	90,951,000
Act 1	255,448,000
System 2000 / Act 3	<u>298,313,000</u>
	644,712,000
Total	
Act 447	885,709,000
Act 1	1,741,228,000
System 2000 / Act 3	<u>1,398,508,000</u>
	4,025,445,000
Market Value of Assets as of June 30, 2017	(2,108,880,000)

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION IV – GASB 67 ACCOUNTING INFORMATION

A. Projection to Determine GASB 67 Date of Depletion (if any)

As directed by the System, the asset basis for the date of depletion projection is the System's net assets (the gross assets less the Pension Obligation Bond proceeds). On this basis, net assets were exhausted in the 2014-2015 fiscal year and no projection was needed to be performed as of June 30, 2017, as the tax-free municipal bond index applies in all years, and is thus the single equivalent interest rate that is used as the discount rate in the determination of the Total Pension Liability.

The tax free municipal bond index of 3.58% as of June 30, 2017 was used as the discount rate in the determination of the Total Pension Liability as of June 30, 2017.

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION IV - GASB 67 ACCOUNTING INFORMATION

B. Net Pension Liability

Net Pension Liability	<u>June 30, 2016</u>	<u>June 30, 2017</u>
Total pension liability	\$36,432,873,000	\$30,091,826,000
Fiduciary net position	(1,265,885,000)	(2,108,880,000)
Net pension liability	37,698,758,000	32,200,706,000
Fiduciary net position as a % of total pension liability	-3.47%	-7.01%
Covered payroll	\$3,344,382,000	\$3,344,197,000
Net pension liability as a % of covered payroll	1127.23%	962.88%

The total pension liability was determined by an actuarial valuation as of July 1, 2016, calculated based on the discount rate and actuarial assumptions as shown in Section VIII and was then projected forward to June 30, 2017. There have been no significant changes between the valuation date of July 1, 2016 and the fiscal year end. Any significant changes during this period must be reflected as prescribed by GASB 67. Covered Payroll is as of July 1, 2016.

Discount Rate

The plan's fiduciary net position was not projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the discount rate for calculating the total pension liability is equal to the single equivalent rate that results in the same actuarial present value as the long-term expected rate of return applied to benefit payments, to the extent that the plan's fiduciary net position is projected to be sufficient to make projected benefit payments, and the municipal bond rate applied to benefit payments, to the extent that the plan's fiduciary net position is not projected to be sufficient.

	<u>June 30, 2016</u>	<u>June 30, 2017</u>
Discount rate	2.85%	3.58%
Long-term expected rate of return net of investment expense	6.55%	n/a
Municipal bond rate *	2.85%	3.58%

* Bond Buyer General Obligation 20-Bond Municipal Bond Index

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION IV - GASB 67 ACCOUNTING INFORMATION

C. GASB 67 Benefit Obligations as of June 30, 2017

	Basic System <u>Benefits</u>	System Administered <u>Benefits</u>	<u>Total</u>
1. Projected Benefits Payable to Retirees and Beneficiaries			
Retirees	\$17,174,562,000	\$1,374,438,000	\$18,549,000,000
Disabled Members	1,060,979,000	355,322,000	1,416,301,000
Beneficiaries	<u>641,515,000</u>	<u>119,604,000</u>	<u>761,119,000</u>
Total	18,877,056,000	1,849,364,000	20,726,420,000
2. Projected Benefits Payable to Vested Terminated Members	665,488,000	64,142,000	729,630,000
3. Actuarial Accrued Liability for Active Members	7,742,448,000	805,437,000	8,547,885,000
4. Return of Contributions due to former Members	87,891,000	0	87,891,000
5. Total Pension Liability as of June 30, 2017: (1) + (2) + (3) + (4)	\$27,372,883,000	\$2,718,943,000	\$30,091,826,000

The above liabilities are for Basic System Benefits and selected System Administered Benefits. See Section I for more information.

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION IV - GASB 67 ACCOUNTING INFORMATION

D. Changes in Net Pension Liability

Changes in Net Pension Liability	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances as of June 30, 2016	\$36,432,873,000	(\$1,265,885,000)	\$37,698,758,000
Changes for the year:			
Service cost	628,025,000		628,025,000
Interest on total pension liability	1,034,186,000		1,034,186,000
Effect of plan changes	(2,017,468,000)		(2,017,468,000)
Effect of economic/demographic (gains) or losses	(248,414,000)		(248,414,000)
Effect of assumptions changes or inputs	(4,179,110,000)		(4,179,110,000)
Benefit payments	(1,558,266,000)	(1,558,266,000)	0
Administrative expenses		(26,142,000)	26,142,000
Other expenses		(394,324,000)	394,324,000
Cost of bonds		(198,084,000)	198,084,000
Member contributions		320,095,000	(320,095,000)
Net investment income		92,188,000	(92,188,000)
Employer contributions		921,538,000	(921,538,000)
Balances as of June 30, 2017	\$30,091,826,000	(\$2,108,880,000)	\$32,200,706,000

E. Sensitivity Analysis

The following presents the net pension liability of PRGERS, calculated using the discount rate of 3.58%, as well as what the System's net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (2.58%) or 1 percentage point higher (4.58%) than the current rate.

	1% Decrease 2.58%	Current Discount Rate 3.58%	1% Increase 4.58%
Total pension liability	\$34,490,564,000	\$30,091,826,000	\$26,558,073,000
Fiduciary net position	(2,108,880,000)	(2,108,880,000)	(2,108,880,000)
Net pension liability	36,599,444,000	32,200,706,000	28,666,953,000

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION V - GASB 45 ACCOUNTING INFORMATION

A. Benefit Obligations

1. Projected Benefits Payable to Retirees and Beneficiaries:	
Retirees	\$995,951,000
Disabled Members	142,358,000
Beneficiaries	<u>0</u>
Total	1,138,309,000
2. Projected Benefits Payable to Vested Terminated Members:	0
3. Actuarial Accrued Liability for Active Members	0
4. Total Actuarial Accrued Liability as of June 30, 2017:	1,138,309,000
5. Total Employer Normal Cost as of December 31, 2017:	0

The above liabilities are for the Medical Insurance Plan Contribution portion of the System Administered Benefits. See Section I for more information.

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION V - GASB 45 ACCOUNTING INFORMATION

B. Development of Unfunded Actuarial Accrued Liability and Amortization Payment Payable as of December 31, 2017:

1. Actuarial Accrued Liability as of June 30, 2017:	\$1,138,309,000
2. Actuarial Value of Assets as of June 30, 2017:	0
3. Unfunded Actuarial Accrued Liability as of June 30, 2017: (1) - (2)	1,138,309,000
4. Amortization Period in years	15
5. Amortization Factor at beginning of year	12.3735
6. Amortization Amount Payable as of December 31, 2017: [(3) / (5)] * (1.0290 ^ 0.5)	\$93,320,000

C. Development of Annual Required Contribution

1. Total Employer Normal Cost as of December 31, 2017:	\$0
2. Amortization Payment as of December 31, 2017:	93,320,000
3. Annual Required Contribution*: (1) + (2)	93,320,000

* Assumes payments made throughout the year.

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION V - GASB 45 ACCOUNTING INFORMATION

D. Development of Net OPEB Obligation as of June 30, 2017

1. Net OPEB Obligation as of June 30, 2016	\$206,184,000
2. Annual OPEB Cost for Fiscal Year 2016 - 2017	95,630,000
3. Fiscal Year 2016 - 2017 Employer Contribution	91,280,000
4. Net OPEB Obligation as of June 30, 2017: (1) + (2) - (3)	\$210,534,000

E. Development of Fiscal Year 2017 - 2018 Annual OPEB Cost

1. Annual Required Contribution	\$93,320,000
2. Interest on Net OPEB Obligation as of June 30, 2017	6,105,000
3. Adjustment to the Annual Required Contribution	17,508,000
4. Fiscal Year 2017 - 2018 Annual OPEB Cost: (1) + (2) - (3)	\$81,917,000

The above liabilities are for the Medical Insurance Plan Contribution portion of the System Administered Benefits. See Section I for more information.

The above Net OPEB Obligation and Annual OPEB Cost are determined as if PRGERS was a single employer plan instead of a cost-sharing multiple employer plan. See Section I for more information.

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION V - GASB 45 ACCOUNTING INFORMATION

F. Schedule of Employer Contributions

<u>Year Ended June 30</u>	<u>Actual Employer Contribution</u>	<u>Annual Required Contribution</u>	<u>Percent Contributed</u>
2018 *	\$89,132,000	\$93,320,000	95.51%
2017	91,280,000	105,859,000	86.23
2016	93,728,000	107,739,000	87.00
2015	97,374,000	103,878,000	93.74
2014	102,085,000	88,508,000	115.34
2013	91,823,000	154,999,000	59.24
2012	94,664,000	133,654,000	70.83

- * Actual Employer Contribution for the year ended June 30, 2018 assumes:
- contribution of \$89.132 million for Special Law OPEB benefits.

The above liabilities are for the Medical Insurance Plan Contribution portion of the System Administered Benefits. See Section I for more information.

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION V - GASB 45 ACCOUNTING INFORMATION

G. Schedule of Funding Progress

Actuarial Valuation Date	(a) Actuarial Value of Assets	(b) Accrued Liability	(c)=(b)-(a) Unfunded Liability	(d)=(a)/(b) Funded Ratio	(e) Annual Salary	(f)=(c)/(e) Unfunded Liability as a % of Annual Salary
06/30/2017	\$0	\$1,138,309,000	\$1,138,309,000	0.0%	\$3,344,197,000	34.0%
06/30/2016	0	1,349,503,000	1,349,503,000	0.0%	3,344,382,000	40.4%
06/30/2015	0	1,428,788,000	1,428,788,000	0.0%	3,319,280,000	43.0%
06/30/2014	0	1,438,475,000	1,438,475,000	0.0%	3,489,096,000	41.2%
06/30/2013	0	1,482,879,000	1,482,879,000	0.0%	3,489,096,000	42.5%
06/30/2012	0	2,120,970,000	2,120,970,000	0.0%	3,570,339,000	59.4%

The above liabilities are for the Medical Insurance Plan Contribution portion of the System Administered Benefits.
See Section I for more information.

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SECTION V - GASB 45 ACCOUNTING INFORMATION

H. Additional Information

The following information was used to determine the Annual Required Contribution for the fiscal year ending June 30, 2018. The ARC is for the Medical Insurance Plan Contribution. See Section I for more information.

Valuation Date:	June 30, 2017
Actuarial Cost Method:	Entry Age Normal
Amortization method:	18 years closed (beginning July 1, 2014), level dollar
Remaining Amortization Period:	15 years
Asset valuation method:	not applicable
Assumptions:	
Investment rate of return	2.90%
Projected Salary Increases	not applicable
Projected Payroll Growth	not applicable
Inflation	not applicable
Cost of Living Adjustments	not applicable

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION VI - CENSUS DATA

A. Summary of Member Data as of July 1, 2016

	Act 447	Act 1	System 2000 / Act 3	Total
Active Members				
Count	15,685	38,147	64,825	118,657
Average Age	55.6	50.9	43.3	47.4
Average Salary	\$34,145	\$30,869	\$25,161	\$28,184
Average Creditable Service	29.0	21.3	10.8	16.6
Retired Members				
Count	82,887	9,950	1,234	94,071
Average Age	70.5	66.9	65.7	70.1
Average Monthly Basic System Benefit	\$1,184	\$411	\$731	\$1,096
Average Monthly System Administered Benefit	\$67	\$50	\$3	\$64
Disabled Members				
Count	12,365	2,218	139	14,722
Average Age	71.7	65.0	54.5	70.5
Average Monthly Basic System Benefit	\$490	\$520	\$785	\$498
Average Monthly System Administered Benefit	\$135	\$64	\$5	\$123
Beneficiaries in payment				
Count	13,485	389	90	13,964
Average Age	75.5	70.6	61.9	75.3
Average Monthly Basic System Benefit	\$390	\$434	\$632	\$393
Average Monthly System Administered Benefit	\$56	\$17	\$7	\$55

Basic System Benefit and System Administered Benefit amounts shown above are for pension benefits, including minimum benefits up to \$500 per month and COLAs, and excludes benefits payable at a later date to Law 70 Section 4B retirees. Special Law "bonus" benefits are not reflected.

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SECTION VII – SUMMARY OF PRINCIPAL PLAN PROVISIONS **AS OF JUNE 30, 2017**

This summary of plan provisions is intended only to describe the essential features of the plan for valuation purposes. All eligibility requirements and benefit amounts shall be determined in strict accordance with the plan document itself.

Act 106-2017 closed participation in PRGERS to new members effective July 1, 2017, and moved prospective accruals for all current active members to a separate defined contribution plan outside of PRGERS. This summary details the provisions under Act 3 of 2013, which was effective July 1, 2013 and under which the benefits to be paid to PRGERS members are determined. Certain provisions are different for the three groups of members who entered PRGERS prior to July 1, 2013 as described below.

- Act 447 members are generally those members hired before April 1, 1990.
- Act 1 members are generally those members hired on or after April 1, 1990 and on or before December 31, 1999.
- System 2000 members are generally those members hired on or after January 1, 2000 and on or before June 30, 2013.

1. Type of Plan

The System is a contributory, hybrid defined benefit plan.

2. Effective Date

The System was established in 1951 by Act 447 to be effective January 1, 1952. The plan was last amended under Act 3, approved April 4, 2013.

3. Eligibility for Membership

Members of the Employees Retirement System of the Government of Puerto Rico and its Instrumentalities include all regular full-time and non-municipal temporary employees who are not contributing to other Retirement Systems (Articles 1-104 and 1-105) and were hired before July 1, 2017 (Act 106-2017). Employees include those in the following categories:

- Police of Puerto Rico,
- Firefighters of Puerto Rico,
- Elective officers of the People of Puerto Rico and the employees of the Legislature,

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- Officers and employees of the Government of Puerto Rico,
- Officers and employees of public enterprises,
- Officers and employees, including mayors, of the municipalities, and
- Irregular personnel fulfilling the requirements of regular employee.

Membership is mandatory, except for the Governor of Puerto Rico, Government Secretaries, heads of public agencies and instrumentalities, the Governor's aides, gubernatorial appointees of commissions and boards, members of the Legislature, the Controller of Puerto Rico, the employees of the Agricultural Extension Service of the U.P.R., the Ombudsman and the Commonwealth Election Board employees (Article 1-105). In addition, membership is optional for eligible employees while working and residing outside the territorial limits of the Commonwealth of Puerto Rico (Act 112 of 2004).

4. Definitions

- a. Fiscal Year: A Fiscal Year is a 12-month period beginning on July 1 and ending on June 30 (Article 1-104).
- b. General Fund: The General Expenses Budget of the Government of the Commonwealth of Puerto Rico.
- c. Government of Puerto Rico or Government: The Government of the Commonwealth of Puerto Rico, its departments, divisions, bureaus, offices, agencies and dependencies (Article 1-104).
- d. Public Enterprise: Any government instrumentality of the People of Puerto Rico (Article 1-104).
- e. Municipality: The Municipality of San Juan (Article 1-104).
- f. Employer: The Government of Puerto Rico, any public enterprise that has elected to participate in the System, or any municipality that has elected to participate in the System (Articles 1-104 and 1-110).
- g. Employee: Any officer or employee of the Employer regularly employed on a full time basis (Article 1-104).

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- h. Creditable Service for Act 447 members: The years and months of plan participation, during which contributions have been made, beginning on the later of date of hire or January 1, 1952 and ending on date of separation from service. For purposes of calculating Creditable Service, the following schedule shall apply:

Service During a Fiscal Year	Creditable Service Earned
15 days during the same month	1 month
2 months and 15 days to 5 months and 14 days	$\frac{1}{2}$ year
5 months and 15 days to 8 months and 14 days	$\frac{3}{4}$ year
8 months and 15 days to 12 months	1 year

Note: All of the days have to be during the same month.

Months in which less than 15 days of service are rendered do not count towards Creditable Service. (Article 1-106)

In general, Creditable Service may be earned for any period of employment during which no contributions were made if Accumulated Contributions for such periods are paid to the System. The same rules hold for rehired employees who previously received a refund of Accumulated Contributions at separation. (Article 1-106)

Creditable Service also includes purchased service, if any (Article 1-106).

- i. Creditable Service for Act 1 members: The years and completed months of plan participation, during which contributions have been made, beginning on date of hire and ending on date of separation from service. (Articles 1-106 and 2-109) For purposes of calculating Creditable Service, the following schedule shall apply:

Service During a Fiscal Year	Creditable Service Earned
Less than 3 months	None
3 to 5 months	$\frac{1}{2}$ year
6 to 8 months	$\frac{3}{4}$ year
9 months or more	1 year

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In general, Creditable Service may be earned for any period of employment during which no contributions were made if Accumulated Contributions for such periods are paid to the System. The same rules hold for rehired employees who previously received a refund of Accumulated Contributions at separation. (Article 1-106)

Creditable Service also includes purchased service, if any (Article 1-106).

- j. Compensation: The gross cash compensation, excluding bonuses and overtime, upon which contributions by a Member to the Fund are based (Article 1-104).
- k. Average Compensation for Act 447 members: The average of the 3 highest years (36 highest months) of compensation that the participant has received for Creditable Service (Article 1-104).
- l. Average Compensation for Act 1 members: The average of the last 5 years of compensation that the participant has received for Creditable Service. If annual compensation in the averaging period exceeds by more than 10% the annual compensation in the immediately preceding year, the compensation in excess of said 10% shall not be included in the calculation of Average Compensation. (Article 2-108)
- m. Contributions: The amount deducted from the compensation of a Member and the employer (Section 781).
- n. Regular Interest: The interest rate as prescribed by the Board of Trustees (Article 1-104). The rate of 2.50% has always been in effect.
- o. Accumulated Contributions: The sum of all amounts deducted from the compensation of a Member prior to July 1, 2013 with Regular Interest (Article 1-104).
- p. Actuarial Equivalent: Equality in value such that the present value of the amount under any form of payment is essentially the same as the present value of the amount under the normal form of annuity payment for single participants. Actuarially Equivalent factors are determined based on annuity and mortality tables

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SECTION VII – SUMMARY OF PRINCIPAL PLAN PROVISIONS **AS OF JUNE 30, 2017**

adopted by the Board of Trustees based on the system's experience and in accordance with the recommendations of the actuary.

For purposes of converting the Defined Contribution Hybrid Contribution Account to a lifetime annuity, the current factors adopted by the Board are the single life annuity factors using an interest rate of 4% and the RP-2000 Healthy Annuitant Mortality Table for ages 50 and over and the RP-2000 Employee Mortality Table for ages under 50, projected to 2025 using Scale AA and blended 50% male / 50% female.

- q. Public Officers in High-Risk Positions: The Commonwealth of Puerto Rico Police, the Municipal Police, the Commonwealth Firefighter Corps, the Municipal Firefighter Corps, and the Custody Officers Corps.
- r. Social Security Retirement Age (SSRA): The Social Security Retirement Age varies based on the year of birth as indicated in the table below.

Year of Birth	Social Security Retirement Age
1937 or earlier	65 years
1938	65 years and 2 months
1939	65 years and 4 months
1940	65 years and 6 months
1941	65 years and 8 months
1942	65 years and 10 months
1943 to 1954	66 years
1955	66 years and 2 months
1956	66 years and 4 months
1957	66 years and 6 months
1958	66 years and 8 months
1959	66 years and 10 months
1960 and later	67 years

- s. Retirement Savings Account: The individual retirement account established for each member of System 2000 (Article 1-104). Each member has a nonforfeitable right to the value of his Retirement Savings Account (Article 3-107).

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- t. Credits to Retirement Savings Account: The credits to the retirement savings account include (1) any initial transfer balance for transferred participants, (2) contributions of the members to System 2000, and (3) the investment yield for each semester of the fiscal year based on the investment alternatives elected by the member (Article 3-107).
- u. Investment Alternatives for Retirement Savings Account: System 2000 members could choose to allocate their Retirement Savings Account, in multiples of 10%, to the following investment options prior to July 1, 2013. Changes in allocation could have been made annually, effective each July 1.
 - i. Fixed income – The yield is equal to the average monthly yield of the Two-Year Constant Maturity Treasuries during each semester of the fiscal year.
 - ii. System's investment portfolio – The yield is equal to 90% (75% prior to July 1, 2004) of the investment portfolio yield of the System during each semester of each fiscal year minus management fees such as fees payable to administrators of the portfolio.
 - iii. Other alternatives adopted by the Board of the System.
- v. Defined Contribution Hybrid Contribution Account: The individual account established for each active member as of July 1, 2013 and for each future member thereafter. Each member has a nonforfeitable right to their contributions to the Defined Contribution Hybrid Contribution Account and, for the System 2000 members, the initial transfer of their Retirement Savings Account as of June 30, 2013.
- w. Credits to Defined Contribution Hybrid Contribution Account: The credits to the retirement savings account include (1) the Retirement Savings Account as of June 30, 2013 for System 2000 members, (2) contributions by all members from July 1, 2013 to June 30, 2017 to PRGERS, and (3) the investment yield for each semester of the fiscal year as determined by the Board. The investment yield determined by the Board shall never be less than 80% of the investment portfolio yield of the System during each semester of each fiscal year minus management fees such as, but not limited to, fees payable to administrator of the portfolio, safekeeping of securities and investment counseling. With the move to pay-as-you-go funding under Act 106-2017, no credits are applied after June 30, 2017.

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5. Coordination with Social Security for Act 447 members: Except for police, mayors and employees of the Agricultural Extension Service of the U.P.R., participants may elect to coordinate coverage under the System with Federal Social Security by selecting the lower of two contribution options. Those participants selecting Option (1), the Coordination Plan, are subject to a benefit recalculation upon attainment of Social Security Retirement Age. Those participants selecting Option (2), the Supplementation Plan, will continue to receive the same benefits for life, without any adjustments at SSRA. At any time up to retirement, participants may change from Option (1) to Option (2) by making a contribution including interest to the System, retroactive to the later of July 1, 1968 or the date of plan entry, that will bring their career Accumulated Contributions to the Option (2) level. All police, mayors and employees of the Agricultural Extension Service of the U.P.R. are covered under Option (2), the Supplementation Plan.

6. Retirement Benefits

a. Eligibility for Act 447 members: Act 447 members who were eligible to retire as of June 30, 2013 would continue to be eligible to retire at any time. Prior to July 1, 2013, Act 447 members could retire upon (1) attainment of age 55 with 25 years of Creditable Service, (2) attainment of age 58 with 10 years of Credited Service, (3) any age with 30 years of Creditable Service, (4) for Public Officers in High Risk Positions, attainment of age 50 with 25 years of Creditable Service, and (5), for Mayors, attainment of age 50 with 8 years of Creditable Service as a Mayor. In addition, Act 447 members who would attain 30 years of Creditable Service by December 31, 2013 would be eligible to retire at any time.

Act 447 members who were not eligible to retire as of June 30, 2013 and did not attain 30 years of Creditable Service by December 31, 2013 would be eligible to retire upon attainment of the retirement eligibility age shown in the following table with 10 years of Creditable Service.

Date of Birth	Attained Age as of June 30, 2013	Retirement Eligibility Age
July 1, 1957 or later	55 or less	61
July 1, 1956 to June 30, 1957	56	60
Before July 1, 1956	57 and up	59

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In addition to the requirements in the preceding table, Act 447 Public Officers in High Risk Positions who were not eligible to retire as of June 30, 2013 and did not attain 30 years of Creditable Service by December 31, 2013 are eligible to retire directly from active service upon the attainment of age 55 with 30 years of Creditable Service.

- b. Eligibility for Act 1 members: Act 1 members who were eligible to retire as of June 30, 2013 would continue to be eligible to retire at any time. Prior to July 1, 2013, Act 1 members could retire upon (1) attainment of age 55 with 25 years of Creditable Service, (2) attainment of age 65 with 10 years of Credited Service, (3) for Public Officers in High Risk Positions, any age with 30 years of Creditable Service, and (4) for Mayors, attainment of age 50 with 8 years of Creditable Service as a Mayor.

Act 1 members who were not eligible to retire as of June 30, 2013 would be eligible to retire upon attainment of age 65 with 10 years of Creditable Service. In addition, Act 1 Public Officers in High Risk Positions who were not eligible to retire as of June 30, 2013 are eligible to retire directly from active service upon the attainment of age 55 with 30 years of Creditable Service.

- c. Eligibility for System 2000 members: System 2000 members who were eligible to retire as of June 30, 2013 would continue to be eligible to retire at any time. Prior to July 1, 2013, System 2000 members could retire upon attainment of age 55 for Public Officers in High Risk Positions and attainment of age 60 otherwise.

System 2000 members who were not eligible to retire as of June 30, 2013 would be eligible to retire upon attainment of age 55 for Public Officers in High Risk Positions and upon attainment of the retirement eligibility age shown in the following table otherwise.

Date of Birth	Attained Age as of June 30, 2013	Retirement Eligibility Age
July 1, 1957 or later	55 or less	65
July 1, 1956 to June 30, 1957	56	64
July 1, 1955 to June 30, 1956	57	63
July 1, 1954 to June 30, 1955	58	62
Before July 1, 1954	59 and up	61

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- d. Eligibility for members hired after June 30, 2013: Attainment of age 58 if a Public Officer in a High Risk Position and attainment of age 67 otherwise.
- e. Benefit: An annuity payable for the lifetime of the member equal to the annuitized value of the balance in the Defined Contribution Hybrid Contribution Account at the time of retirement, plus, for Act 447 and Act 1 members, the Accrued Benefit determined as of June 30, 2013. If the balance in the Defined Contribution Hybrid Contribution Account is \$10,000 or less, the balance in the Defined Contribution Hybrid Contribution Account shall be paid as a lump sum instead of as an annuity.
- f. Accrued Benefit as of June 30, 2013 for Act 447 members: The accrued benefit as of June 30, 2013 shall be determined based on the Average Compensation for Act 447 members, the years of Creditable Service, and the attained age of the member all as of June 30, 2013. For Act 447 Mayors, the Highest Compensation as a Mayor is determined as of June 30, 2013.

If the Act 447 member had at least 30 years of Creditable Service as of June 30, 2013, the accrued benefit equals 65% of Average Compensation if the member was under age 55 as of June 30, 2013 or 75% of Average Compensation if the member was at least age 55 as of June 30, 2013. For participants selecting the Coordination Plan, the benefit is re-calculated at SSRA as 1.5% of Average Compensation up to \$6,600 multiplied by years of Creditable Service, up to 30 years, plus 65% (75% if member was at least age 55 as of June 30, 2013) of Average Compensation in excess of \$6,600.

If the Act 447 member had less than 30 years of Creditable Service as of June 30, 2013, and attains 30 years of Creditable Service by December 31, 2013, the accrued benefit equals 55% of Average Compensation if the member was under age 55 as of June 30, 2013 or 60% of Average Compensation if the member was at least age 55 as of June 30, 2013. For participants selecting the Coordination Plan, the benefit is re-calculated at SSRA as 1.5% of Average Compensation up to \$6,600 multiplied by years of Creditable Service, up to 30 years, plus 55% (60% if member was at least age 55 as of June 30, 2013) of Average Compensation in excess of \$6,600. Member contributions received from Act 447 members eligible for this transitory benefit during the period beginning July 1, 2013 and ending upon the attainment of 30 years of Creditable Service are considered pre-July 1, 2013

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contributions; the contributions to the Defined Contribution Hybrid Contribution Account begin after the member attains 30 years of Creditable Service.

If the Act 447 member had less than 30 years of Creditable Service as of December 31, 2013, the accrued benefit equals 1.5% of Average Compensation multiplied by years of Creditable Service up to 20 years, plus 2% of Average Compensation multiplied by years of Creditable Service in excess of 20 years. Maximum benefit is 75% of Average Compensation. Except for Commonwealth Police and Commonwealth Firefighters, the benefit is actuarially reduced for each year payment commences prior to age 58. For participants selecting the Coordination Plan, the basic benefit is re-calculated at SSRA as 1% of Average Compensation up to \$6,600 multiplied by years of Creditable Service up to 20 years, plus 1.5% of Average Compensation up to \$6,600 multiplied by years of Creditable Service in excess of 20 years, plus 1.5% of Average Compensation in excess of \$6,600 multiplied by years of Creditable Service up to 20 years, plus 2.0% of Average Compensation in excess of \$6,600 multiplied by years of Creditable Service in excess of 20 years. Except for Police and Firefighters, the benefit is actuarially reduced for each year payment commences prior to age 58.

For Act 447 Mayors with at least 8 years of Creditable Service as a mayor, the accrued benefit will not be less than 5% of Highest Compensation as a Mayor for each year of Creditable Service as a Mayor up to 10 years, plus 1.5% of Highest Compensation as Mayor for each year of non-Mayoral Creditable Service up to 20 years, plus 2.0% of Highest Compensation as Mayor for each year of non-Mayoral Creditable Service in excess of 20 years. Non-Mayoral Creditable Service includes service earned as a Mayor in excess of 10 years. Maximum benefit is 90% of Highest Compensation as a Mayor.

- g. Accrued Benefit as of June 30, 2013 for Act 1 members: The accrued benefit as of June 30, 2013 shall be determined based on the Average Compensation for Act 1 members, the years of Creditable Service, and the attained age of the member all as of June 30, 2013. For Act 1 Mayors, the Highest Compensation as a Mayor is determined as of June 30, 2013.

If the Act 1 Commonwealth Police or Commonwealth Firefighter had at least 30 years of Creditable Service as of June 30, 2013, the accrued benefit equals 65% of Average Compensation if the member was under age 55 as of June 30, 2013

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or 75% of Average Compensation if the member was at least age 55 as of June 30, 2013.

For all other Act 1 members, the accrued benefit equals 1.5% of Average Compensation multiplied by years of Creditable Service. The benefit is actuarially reduced for each year payment commences prior to age 65.

For Act 1 Mayors with at least 8 years of Creditable Service as a mayor, the accrued benefit will not be less than 5% of Highest Compensation as a Mayor for each year of Creditable Service as a Mayor up to 10 years, plus 1.5% of Highest Compensation as Mayor for each year of non-Mayoral Creditable Service up to 20 years, plus 2.0% of Highest Compensation as Mayor for each year of non-Mayoral Creditable Service in excess of 20 years. Non-Mayoral Creditable Service includes service earned as a Mayor in excess of 10 years. Maximum benefit is 90% of Highest Compensation as a Mayor.

- h. Compulsory Retirement: All Act 447 and Act 1 Public Officers in High Risk Positions must retire upon attainment of age 58 and 30 years of creditable service. A two year extension may be requested by the member from the Superintendent of the Puerto Rico Police, the Chief of the Firefighter Corps, or supervising authority as applicable.

7. Termination Benefits

a. Lump Sum Withdrawal

Eligibility: A Member is eligible upon termination of service prior to 5 years of service or if the balance in the Defined Contribution Hybrid Contribution Account is \$10,000 or less.

Benefit: The benefit equals a lump sum payment of the balance in the Defined Contribution Hybrid Contribution Account as of the date of the permanent separation of service.

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b. Deferred Retirement

Eligibility: A Member is eligible upon termination of service with 5 or more years of service (10 years of Creditable Service for Act 447 and Act 1 members) prior to the applicable retirement eligibility, provided the member has not taken a lump sum withdrawal of the Accumulated Contributions and the Defined Contribution Hybrid Contribution Account.

Benefit: An annuity payable for the lifetime of the member commencing at the applicable retirement eligibility age equal to the annuitized value of the balance in the Defined Contribution Hybrid Contribution Account at the time of retirement, plus, for Act 447 and Act 1 members, the Accrued Benefit determined as of June 30, 2013.

8. Death Benefits

a. Pre-retirement Death Benefit

Eligibility: Any current non-retired member is eligible.

Benefit: A refund of the Defined Contribution Hybrid Contribution Account, plus the Accumulated Contributions for Act 447 and Act 1 members.

b. High-Risk Death Benefit under Act 127

Eligibility: Police, firefighters, and other employees in specified high-risk positions who die in the line of work due to reasons specified in Act 127 of 1958 (as amended).

Spouse's Benefit: 50% of the participant's Compensation at date of death, payable as an annuity until death or remarriage (Act 127 of 1958 as amended).

Children's Benefit: 50% of the participant's Compensation at date of death, payable as an annuity, allocated pro-rata among eligible children. The annuity is payable for life for a disabled child, until age 18 for a non-disabled child not pursuing studies, and until age 25 for a non-disabled child who is pursuing studies. (Act 127 of 1958 as amended)

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Benefit if no spouse or children: The parents of the member shall each receive 50% of the participant's Compensation at date of death, payable as an annuity for life. (Act 127 of 1958 as amended)

Post-death increases: Effective July 1, 1996 and subsequently every three years, the above death benefits are increased by 3% provided that the beneficiary(ies) had been receiving payments for at least three years. (Act 127 of 1958 as amended)

The cost of these benefits is paid by the General Fund (Act 127 of 1958 as amended).

c. Post-retirement Death Benefit for Members who retired prior to July 1, 2013

Eligibility: Any retiree or disabled member receiving a monthly benefit who has not elected a reversionary annuity and whose benefits commenced prior to July 1, 2013.

Benefit: The benefit is as follows (Law 105 as amended by Law 4):

- (i) For those married or with dependent children at the time of death, the annual income to a widow, or widower or dependent children is equal to 60% (50% if in the Coordination Plan - 30% prior to January 1, 2004) of the retirement benefit payable for life for a surviving spouse and/or disabled children and payable until age 18 (age 25 if pursuing studies) for non-disabled children. If in the Coordination Plan, the benefit to the surviving spouse does not begin until the spouse's attainment of age 60 and the surviving spouse must have been married to the member for at least 10 years to be eligible for this benefit. The increase in the percentage from 30% to 50% if in the Coordination Plan is paid by the General Fund for former government employees or by the public enterprise or municipality for their former employees (Act 158 of 2003).
- (ii) The benefit, when there is no relation as stated above, is equal to the remaining balance of Accumulated Contributions at the time of retirement after the deduction of lifetime annual income paid and is payable to a beneficiary or to the Member's estate. In no case shall the benefit be less than \$1,000.

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Either the General Fund for former government employees or the public enterprise or municipality for their former employees pays the difference, up to \$250, between (1) the Accumulated Contributions less the lifetime annual income paid and (2) \$1,000. The System pays for the rest. (Article 2-113 and Act 524 of 2004)

d. Post-retirement Death Benefit for Members who retired after June 30, 2013

Eligibility: Any retiree or disabled member who began receiving a monthly benefit after June 30, 2013.

Benefit: If the member elected at the time of retirement to transfer a portion of the annuity to a beneficiary by selecting an actuarially equivalent optional form of payment, the applicable survivor benefit.

For all members, the excess, if any, of the Defined Contribution Hybrid Contribution Account, plus the Accumulated Contributions for Act 447 and Act 1 members, at the time of retirement over the total annuity payments paid to the member and any beneficiary per the terms of the optional form of payment shall be payable to a beneficiary or the Member's estate.

- e. Beneficiaries receiving occupational death benefits as of June 30, 2013 continue to be eligible to receive such benefits.

9. Disability Benefits

a. Disability

Eligibility: All members are eligible upon the occurrence of disability.

Benefit: The balance of the Defined Contribution Hybrid Contribution Account payable as lump sum distribution, an immediate annuity or a deferred annuity at the election of the participant. Act 447 and Act 1 members remain eligible to receive the accrued benefit as of June 30, 2013 commencing at the applicable retirement eligibility age.

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b. High Risk Disability under Act 127

Eligibility: Police, firefighters, and other employees in specified high-risk positions who are disabled in the line of work due to reasons specified in Act 127 of 1958 (as amended).

Benefit: 80% (100% for Act 447 members) of Compensation as of date of disability, payable as an annuity. If the member dies while still disabled, this annuity benefit continues to his beneficiaries. Beneficiaries include the surviving spouse and/or disabled children (for life), non-disabled children until age 18 (age 25 if pursuing studies), and the parents if no other beneficiaries. Effective July 1, 1996 and subsequently every three years, the disability benefit is increased by 3% provided that the member (or beneficiary) had been receiving payments for at least three years. (Act 127 of 1958 as amended) The cost of these benefits is paid by the General Fund.

- c. Members who qualified for occupational or non-occupational disability benefits as of June 30, 2013 continue to be eligible to receive such benefits.

10. Minimum Benefits

- a. Past Ad hoc Increases: The legislature, from time to time, increases pensions for certain retirees as described in Act 124 approved on June 8, 1973 and Act 23 approved on September 23, 1983. The benefits are paid 50% by the General Fund and 50% by the System.
- b. Minimum Benefit for members who retired before July 1, 2013: The minimum monthly lifetime income for members who retired or become disabled before July 1, 2013 is \$500 per month effective July 1, 2013 (\$400 per month effective July 1, 2007 and \$300 per month up to June 30, 2007). The increase in the minimum monthly benefit from \$200 per month to \$300 per month is paid by the General Fund for former government employees or by the public enterprise or municipality for their former employees. The increase in the minimum monthly benefit from \$300 per month to \$400 per month is to be paid by the System for former government employees or by the public enterprise or municipality for their former employees. (Act 156 of 2003, Act 35 of 2007, and Act 3 of 2013.)

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- c. Coordination Plan Minimum Benefit: A minimum monthly benefit is payable upon attainment of SSRA such that the benefit, when added to the Social Security Benefit, is not less than the benefit payable prior to SSRA.
- 11. Cost-of-Living Adjustments (COLA) to Pension Benefits: The legislature, from time to time, increases pensions by 3% for retired and disabled members. Beneficiaries are not entitled to COLAs granted after the retiree's death. The first increase was granted by Act 10 of 1992. Subsequent 3% increases have been granted every third year since 1992, with the latest 3% increase established on April 24, 2007 and effective July 1, 2007 (retroactive to January 1, 2007) for retired and disabled members that were receiving a monthly benefit on or before January 1, 2004 (Act 35). In addition, effective July 1, 2008, any retired or disabled member that was receiving a monthly annuity on or before January 1, 2004 less than \$1,250 per month received an increase of up to 3% without exceeding the limit of \$1,250 per month (Act 35). The COLAs granted in 1992 to all retirees and in 1998 to retirees who are former government or municipal employees shall be paid by the System. All other COLAs granted in 1995 and later shall be paid by the General Fund for former government employees or by the public enterprise or municipality for their former employees. (Various Acts)
- 12. Medical Insurance Plan Contribution: A payment of up to \$100 per month to the eligible medical insurance plan selected by the retiree or disabled member provided the member retired prior to July 1, 2013. This benefit is paid from the Supplemental Contributions (see item 14c) received from the General Fund for former government employees or by the public corporation or municipality for their former employees. (Act 483 as amended by Act 3)
- 13. Special "Bonus" Benefits:
 - a. Christmas Bonus: An annual bonus of \$200 for each retiree, beneficiary, and disabled member paid in December provided the member retired prior to July 1, 2013. This benefit is paid from the Supplemental Contributions (see item 14c) received from the General Fund for former government employees or by the public corporation or municipality for their former employees. (Act 144 as amended by Act 3)
 - b. Medication Bonus: An annual bonus of \$100 for each retiree, beneficiary, and disabled member to cover health costs paid in July provided the member retired

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prior to July 1, 2013. Evidence of coverage is not required. The amount is prorated if there are multiple beneficiaries. This benefit is paid from the Supplemental Contributions (see 14c) received from the General Fund for former government employees or by the public corporation or municipality for their former employees. (Act 155 as amended by Act 3)

14. Contributions

- a. Member Contributions: Not applicable. Eliminated July 1, 2017 by Act 106-2017

From July 1, 2013 to June 30, 2017, contributions by members were 10% of Compensation. However, for Act 447 Members who selected the Coordination Plan, the member contributions were 7% of Compensation up to \$6,600 plus 10% of Compensation in excess of \$6,600 during the 2013-2014 fiscal year and 8.5% of Compensation up to \$6,600 plus 10% of Compensation in excess of \$6,600 during the 2014-2015 fiscal year. Members may also have made voluntary additional contributions to their Defined Contribution Hybrid Contribution Account.

Prior to July 1, 2013, contributions by Act 447 Members selecting the Coordination Plan were 5.775% of Compensation up to \$6,600 plus 8.275% of Compensation in excess of \$6,600. Contributions by all other Members were 8.275% of Compensation. System 2000 members may also have made voluntary contributions of up to 1.725% of compensation prior to July 1, 2013.

- b. Employer Contributions: Not applicable. Eliminated July 1, 2017 by Act 106-2017.

Formerly - Prior to July 1, 2011, employer contributions were 9.275% of Compensation. Effective July 1, 2011, employer contributions are 10.275% of Compensation. For the next four fiscal years effective July 1, employer contributions will increase annually by 1% of Compensation. For the next five fiscal years, employer contributions will increase annually by 1.25% of Compensation, reaching an employer contribution rate of 20.525% of Compensation effective July 1, 2020. (Article 2-116 as amended by Act 116 of 2011 and Act 3 of 2013).

- c. Supplemental Contributions from the General Fund, Public Corporations, and Municipalities: Not applicable. Eliminated July 1, 2017 by Act 106-2017.

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Formerly - Effective July 1, 2013, the System will receive a supplemental contribution of \$2,000 each fiscal year for each pensioner (including beneficiaries receiving survivor benefits) who was previously benefitting as an Act 447 or Act 1 member while an active employee. This supplemental contribution will be paid by the General Fund for former government employees or by the public corporation or municipality for their former employees. (Act 3 of 2013)

- d. Additional Uniform Contribution: Not applicable. Eliminated July 1, 2017 by Act 106-2017

Formerly - During the 2013-2014 fiscal year, the System will receive an Additional Uniform Contribution of \$120 million. During each fiscal year from 2014-2015 through 2032-2033, the System will receive an Additional Uniform Contribution certified by the external actuary of the System as necessary to avoid having the projected gross assets of the System, during any subsequent fiscal year, to fall below \$1 billion. The Additional Uniform Contribution will be paid by the General Fund, public corporations, and municipalities. (Act 32 of 2013 as amended)

15. Service Purchase: Prior to July 1, 2013, active members with eligible service from prior employment may elect to purchase service in PRGERS. The cost of the purchase is calculated by applying the PRGERS statutory contribution rates to the member's salary during the years of service at the former employer. The amount due to member contributions is accumulated at 9.5% per year (6% prior to April 4, 2013) until 6 months after the time of the service purchase request. Any amount not covered by asset transfers from the member's prior pension fund is payable by the member (Law 10 of 1992, Law 14 of 1981, Law 122 of 2000, Laws 203 and 33 of 2007). Effective July 1, 2013, only veterans may purchase service for time spent under military leave prior to June 30, 2013. In addition, public employees in active military service were permitted to make voluntary contributions to the Defined Contribution Hybrid Contribution Account during the years of military leave prior to July 1, 2017.

16. Law 70 Retirement Incentive: During the 2010-2011 fiscal year, Law 70 provided for an early retirement incentive. Additional window periods occurred through December 31, 2012. Under Section 4A of Law 70, active members could terminate employment immediately and receive a bonus equal to one, three, or six months of salary (paid by the Commonwealth). Under Section 4B of Law 70, active members who had at least 15 years of service, but less than 30 years of service, were able to retire immediately

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with an enhanced benefit ranging from 37.5% to 50% of salary. This enhanced benefit is paid by the General Fund for government employees and Public Corporations for their employees until the member reaches the later of age 55 or the date the member would have completed 30 years of service had the member continued working. The System will pay the benefit after this time period. While the General Fund / Public Corporation is paying the pension benefit to the member or any surviving beneficiary, the General Fund / Public Corporation will also pay a contribution equal to the employer contribution rate (12.275% for the 2013-2014 fiscal year plus the employee contribution rate for Public Corporations (currently 10%)) of final salary to the System. The employer contribution rate applied to final salary increases as under Act 116-2011 to a rate of 20.525% of payroll in 2020-2021 and thereafter. Under Section 4C of Law 70, active members who had at least 30 years of service could retire immediately and receive a bonus equal to six months of salary (paid by the Commonwealth). For any active employee who retired under Section 4C, the Public Corporation will pay a contribution equal to the employer contribution rate (12.275% for the 2013-2014 fiscal year, increasing to 20.525% in 2020-2021 and thereafter) plus the employee contribution rate (currently 10%) of final salary to the System for five years after retirement.

17. Changes in Plan Provisions since Prior Valuation

Act 106-2017 closed participation in PRGERS to new members effective July 1, 2017, and moved prospective accruals for all current active members to a separate defined contribution plan outside of PRGERS. The following contributions were eliminated July 1, 2017 by Act 106-2017:

- Act 116-2011 Employer Contributions
- Act 32-2013 Additional Uniform Contribution
- Act 3-2013 Supplemental Contributions
- Member Contributions

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Investment Return: Not applicable due to pay-as-you-go funding. As of June 30, 2016 was 6.55% per annum, net of investment expenses (based on the System's investment policy, including target asset allocation and expectations regarding the loan portfolio, and Milliman's capital market assumptions as of June 30, 2016)

Municipal Bond Rate: 3.58% per annum (Bond Buyer General Obligation 20-Bond Municipal Bond Index)

GASB 67 discount rate: 3.58% per annum

GASB 45 discount rate: 2.90% per annum. Based on the Commonwealth's asset allocation for the general assets that are used to pay this benefit and Milliman's capital market assumptions as of June 30, 2017.

Compensation Increases: 3.0% per year. No compensation increases are assumed until July 1, 2021 as a result of the Act 3-2017 four year extension of the Act 66-2014 salary freeze and the current general economy. Based on professional judgment and System input.

Defined Contribution Hybrid Contribution Account: No member contributions will be made to the Defined Contribution Hybrid Contribution Account after June 30, 2017. Based on the liquidation of System assets and move to pay-as-you-go funding under Act 106-2017, no future interest credits are assumed after June 30, 2017. During 2016-2017, the Defined Contribution Hybrid Contribution Account as of July 1, 2016 was assumed to increase by member contributions of 10% of Compensation and 5.24% annual investment return.

Basis for demographic assumptions: The post-retirement healthy and disabled mortality assumptions used in this valuation are based on a study of plan's experience from 2007 to 2012 and updated expectations regarding future mortality improvement. Most other demographic assumptions used in this valuation are based on a 2009 experience study using data as of June 30, 2003, June 30, 2005, and June 30, 2007. Certain demographic assumptions (e.g. termination and retirement) were impacted by the Act 3 pension reforms and were revised based on the new retirement eligibility and expected future experience. All assumptions were reviewed with PRGERS staff for reasonableness and are documented in this Section.

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Termination: Withdrawal rates vary by employment category, age, and service.

Employment Category	Annual Rate of Termination
Act 447 General Employees under age 58 or less than 10 years of service	2.0%
Act 447 General Employees at least age 58 with at least 10 years of service	0.0
Act 447 Public Officers in High Risk Positions under age 50 or less than 10 years of service	1.6
Act 447 Public Officers in High Risk Positions ages 50 to 57 with less than 25 years of service	1.6
Act 447 Public Officers in High Risk Positions at least age 58 with at least 10 years of service or at least age 50 with at least 25 years of service	0.0
Act 1 General Employees	2.0
Act 1 Public Officers in High Risk Positions	1.6
System 2000 and Act 3 General Employees	2.0
System 2000 and Act 3 Public Officers in High Risk Positions	1.6

Commencement of benefits for terminated vested members: Future terminated members with a vested benefit are assumed to retire at the ages shown below, or at the attained age on the valuation date if later.

Employment Category	Act 447	Act 1	System 2000	Act 3
General Employees	61	65	65	67
Public Officers in High Risk Positions	61	65	55	58

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Retirement: Rates of retirement vary by employment category, Act, age and years of Creditable Service, and whether the member was eligible to retire as of June 30, 2013 for Act 447, Act 1, and System 2000 members.

Act 447 General Employees who were eligible to retire as of June 30, 2013 or attained 30 years of Creditable Service by December 31, 2013			
	Service condition		
Age	10 years	25 years	30 years
45 to 49			10.0%
50 to 53			15.0
54			20.0
55 to 57		10.0%	20.0
58	5.0%	10.0	20.0
59 to 64	10.0	15.0	20.0
65 to 69	15.0	15.0	20.0
70	100.0	100.0	100.0

Act 447 General Employees who were not eligible to retire as of June 30, 2013 and did not attain 30 years of Creditable Service by December 31, 2013		
	Year of Retirement Eligibility	
Age	First	Second and Later
59	20.0%	15.0%
60	25.0	15.0
61 to 69	30.0	15.0
70	100.0	100.0

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Act 447 Public Officers in High Risk Positions who were eligible to retire as of June 30, 2013			
	Service condition		
Age	10 years	25 years	30 years
45 to 48			10.0%
49			15.0
50		7.0%	15.0
51 to 56		15.0	20.0
57		20.0	30.0
58	2.5%	20.0	100.0
59 to 64	10.0	25.0	100.0
65 to 69	10.0	30.0	100.0
70	100.0	100.0	100.0

Act 447 Public Officers in High Risk Positions who were not eligible to retire as of June 30, 2013		
	Service condition	
Age	10 years	30 years
55		50.0%
56		15.0
57		15.0
58		100.0
59 to 64	25.0%	100.0
65	100.0	100.0

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Act 1 General Employees who were eligible to retire as of June 30, 2013		
	Service condition	
Age	10 years	25 years
55 to 57		4.5%
58		4.5
59		8.0
60		9.0
61		10.0
62		13.0
63 to 64		14.0
65	15.0%	50.0
66	15.0	15.0
67	100.0	100.0

Act 1 General Employees who were not eligible to retire as of June 30, 2013	
Age	Any Service
65	50.0%
66	20.0
67	100.0

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Act 1 Public Officers in High Risk Positions who were eligible to retire as of June 30, 2013			
	Service condition		
Age	10 years	25 years	30 years
45 to 48			10.0%
49 to 50			15.0
51 to 54			20.0
55 to 56		5.0%	20.0
57		5.0	30.0
58		5.0	100.0
59 to 60		5.0	
61 to 64		10.0	
65	10.0%	50.0	
66 to 69	10.0	10.0	
70	100.0	100.0	

Act 1 Public Officers in High Risk Positions who were not eligible to retire as of June 30, 2013		
	Service condition	
Age	10 years	30 years
55		40.0%
56		15.0
57		15.0
58 to 64		100.0
65	100.0	100.0

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System 2000 General Employees		
Age	Eligible to Retire as of June 30, 2013	Not Eligible to Retire as of June 30, 2013
60	15.0%	
61 to 64	15.0	10.0%
65	15.0	40.0
66	15.0	20.0
67	100.0	100.0

System 2000 Public Officers in High Risk Positions	
Age	Any Service
55	25.0%
56 to 64	20.0
65 to 66	25.0
67	100.0

Act 3 Employees		
Age	General Employees	Public Officers in High Risk Positions
58		30.0%
59 to 64		20.0
65 to 66		25.0
67	100.0%	100.0

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Disability: Rates are based on the six month elimination period rates in the 1987 Commissioners Group Disability Table, adjusted as set forth in the table below.

	Adjustment to 1987 CGDT	
Act	Members Covered under Act 127	Other Members
447	100%	75%
1	100%	75%
2000 and 3 General Employees	<ul style="list-style-type: none"> • 100% for ages 50 and younger • 300% for ages 60 and older • Interpolated from 100% to 300% in the 10 years between age 50 and age 60 	75%
2000 and 3 Public Officers in High Risk Positions	<ul style="list-style-type: none"> • 100% for ages 40 and younger • 300% for ages 50 and older • Interpolated from 100% to 300% in the 10 years between age 40 and age 50 	n/a

100% of disabilities occurring while in active service are assumed to be occupational for members covered under Act 127.

Pre-retirement Mortality: For general employees not covered under Act 127, RP-2014 Employee Mortality Rates for males and females adjusted to reflect Mortality Improvement Scale MP-2017 from the 2006 base year, and projected forward using MP-2017 on a generational basis. For members covered under Act 127, RP-2014 Employee Mortality Rates with blue collar adjustments for males and females adjusted to reflect Mortality Improvement Scale MP-2017 from the 2006 base year, and projected forward using MP-2017 on a generational basis. As generational tables, they reflect mortality improvements both before and after the measurement date.

100% of deaths while in active service are assumed to be occupational for members covered under Act 127.

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Post-retirement Healthy Mortality: Rates which vary by gender are assumed for healthy retirees and beneficiaries based on a study of plan's experience from 2007 to 2012 and updated expectations regarding future mortality improvement. The 2010 base rates are equal to 92% of the rates from the UP-1994 Mortality Table for Males and 95% of the rates from the UP-1994 Mortality Table for Females, both projected from 1994 to 2010 using Scale AA. These base rates are projected using Mortality Improvement Scale MP-2017 on a generational basis. As a generational table, it reflects mortality improvements both before and after the measurement date.

Post-retirement Disabled Mortality: Rates which vary by gender are assumed for disabled retirees based on a study of plan's experience from 2007 to 2012 and updated expectations regarding future mortality improvement. The 2010 base rates are equal to 105% of the rates from the UP-1994 Mortality Table for Males and 115% of the rates from the UP-1994 Mortality Table for Females. These base rates are projected using Mortality Improvement Scale MP-2017 on a generational basis. As a generational table, it reflects mortality improvements both before and after the measurement date.

Marriage: 100% of current active members covered under Act 127 who die in service or become disabled are assumed to have qualifying beneficiaries receiving the maximum benefits possible, which are approximated by a spouse with males 4 years older than females.

Form of Payment: For members retiring after June 30, 2013 (other than under Law 127), upon disability an immediate lump sum distribution of the Defined Contribution Hybrid Contribution Account plus, for Act 447 and Act 1 members, a modified cash refund of the accrued benefit as of June 30, 2013 commencing at retirement eligibility; otherwise, a modified cash refund.

For members retiring after June 30, 2013 under Law 127, a Joint & 100% Survivor benefit of the Law 127 Disability benefit.

Marital status was provided for current retired and disabled members who retired prior to July 1, 2013. For those indicated as married, a joint and survivor annuity was assumed (as shown in the following table), with an adjustment for the probability the spouse has pre-deceased the retiree as of the valuation date. Those not married were assumed to have a modified cash refund (as shown in the following table). The spouse's date of birth

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was imputed based on an assumed age difference of 4 years with males older than females.

Assumed Form of Payment for Members retired before July 1, 2013		
Act	Marital Status	Form of Payment
447	Married at retirement	Joint and 60% survivor benefit – Supplementation Joint and 50% survivor benefit – Coordinated (30% is Basic System Benefit) (20% is System Administered Benefit)
447	Not married at retirement	Modified cash refund (approximated by single life annuity with 3 years certain)
1	Married at retirement	Joint and 60% survivor benefit
1	Not married at retirement	Modified cash refund (approximated by single life annuity with 3 years certain for Mayors, Police & Fire and 5 years certain for other members)
305 (System 2000) - Disabled	Married at retirement	Joint and 60% survivor benefit
305 (System 2000) - Disabled	Not married at retirement	Modified cash refund (approximated by single life annuity with 5 years certain)

All Act 127 retirees were assumed to have a joint and 100% survivor benefit regardless of marital status. The survivor was approximated by a spouse with an assumed age difference of 4 years with males older than females. An adjustment was made for the probability the survivor has pre-deceased the retiree as of the valuation date.

Members who terminate employment with a vested benefit are assumed to elect to receive a deferred pension benefit in lieu of a refund of contributions.

No future dependent children were assumed to become beneficiaries.

No surviving spouse is assumed to become re-married.

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION VIII – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2017

Medical Insurance Plan Contribution: 75% of current service and disability retirees who retired before July 1, 2013 are assumed to receive a monthly medical insurance continuation benefit of \$100 per month.

Deferred Vested Participants: Complete census data on deferred vested participants was not available. The GASB 67 actuarial accrued liabilities for the System have been increased by 2.5% to approximate the value of the liability on behalf of deferred vested participants.

Service Purchase and Data Reporting Issues: Active liabilities for benefits earned prior to June 30, 2013 are increased by 20% for members of Act 447 to approximate the value of service purchases not yet reflected in the census data, and also data reporting issues, including members who have higher past salaries than provided in the valuation census data, and members who are reported as participating in Act 1, System 2000, or Act 3 while active but who retire under Act 447.

Return of Contributions to Former Members: As of June 30, 2017, the actual amount is \$87,891,000 as provided by the System.

Census Data Collection Date: July 1, 2016. When information is provided by participant category in this report, the category is determined as of the census data collection date.

Special Data Adjustments: Upon review of the July 1, 2016 census data submitted by PRGERS, we observed several areas where data was missing, inconsistent, or invalid. Based on solutions implemented in prior years as approved by PRGERS, we applied data edits and assumptions to the census data in order to prepare the data for use in the valuation. The majority of the data edits and assumptions were applied to the following data items:

- Date of birth
- Date of hire
- Gender
- Allocation of Basic System Benefits and System Administered Benefits
- Accumulated Employee Contributions
- Defined Contribution Hybrid Contribution Account Balances
- Employment Category Code (Police / Fire Code)
- Plan Code (Coordinated / Supplementation option)

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION VIII – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2017

- Form of payment and beneficiary characteristics, if applicable
- Benefit commencement date
- Retirement Law
- Entity Class

Employee contribution account balances were identified in the census data as either pre or post Act 3 balances. For most System 2000 members, the post Act 3 employee contribution balances contained the sum of pre and post Act 3 employee contributions. Adjustments were made to differentiate between pre and post Act 3 account balances as of July 1, 2016.

Credited service is based on the greater of “Years Worked” reported in the valuation census data and the elapsed time from date of hire to the valuation date.

Accrued benefits as of June 30, 2013 were estimated for Act 447 and Act 1 active members primarily based on the data submitted for the June 30, 2013 and earlier valuations.

The census data provided for the participants in pay status as of July 1, 2016 did not consistently reflect the increase in the minimum benefit to \$500 per month under Act 3 for participants in pay status prior to July 1, 2013. Pension benefits were increased as necessary to bring the total pension benefits for pre July 1, 2013 retirees and disabled retirees as of July 1, 2016 to \$500 per month and the total pension benefits for pre July 1, 2013 beneficiaries as of July 1, 2016 to \$250 per month. The increase was assumed to be a Basic System Benefit.

For current disabled retirees and beneficiaries receiving benefits under Act 127, the pension benefits paid by System assets (e.g. the Basic System Benefit) was assumed to be 30% of the total reported pension benefit.

Benefits for current beneficiaries who are under age 23 as of the valuation date were assumed to cease at age 23. Benefits for current beneficiaries who are age 23 or older as of the valuation data were assumed to be payable for life. In addition, the current level of benefit for all beneficiaries was assumed to remain constant.

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SECTION VIII – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2017

Benefits not valued: The minimum post-retirement death benefit of \$1,000 for retirees without surviving beneficiaries who retired prior to July 1, 2013 is not explicitly valued. The additional liability associated with this benefit is expected to be de minimis.

The special mayor retirement age for Act 447 and Act 1 mayors is not valued. The additional liability due to this reduced retirement age is expected to be de minimis.

Moreover, this report does not address the guarantee insurance reserve for life insurance on loans to plan members. (Please see Notes to Basic Financial Statements on pages 21 and 58 and Statement of Fiduciary Net Position on page 17 of the System's June 30, 2016 Basic Financial Statements.)

Changes in actuarial assumptions since the prior valuation: The investment return assumption is no longer applicable due to pay-as-you-go funding. As of June 30, 2016 it was 6.55% per annum, net of investment expenses.

The municipal bond rate used as the discount rate for GASB 67 has increased from 2.85% as of June 30, 2016 to 3.58% as of June 30, 2017.

The investment return assumption for GASB 45 purposes was decreased from 3.00% to 2.90%.

The projected mortality improvement scale was updated from Scale MP-2016 to Scale MP-2017 to reflect the projected mortality improvement scale issued in the valuation year.

The percent of current service and disability retirees who retired before July 1, 2013 who are assumed to receive a monthly medical insurance continuation benefit of \$100 per month has been decreased from 85% to 75%.

The increase applied to the GASB 67 actuarial accrued liabilities to approximate the value of the liability on behalf of deferred vested participants has been reduced from 5% to 2.5% and is now applied to System 2000 and Act 3 liabilities in addition to Act 447 and Act 1 liabilities.

The amount of the return of contributions due to former members as of June 30, 2017 was based on the actual June 30, 2017 amount as provided by the System (formerly a trailing three-year average of actual amounts).

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SECTION VIII – SUMMARY OF ACTUARIAL METHODS AS OF JUNE 30, 2017

The ultimate cost of a pension plan is the excess of actual benefits and administrative expenses paid over actual net investment return on plan assets during the plan's existence until the last payment has been made to the last participant. The plan's "actuarial cost method" determines the expected incidence of actuarial costs by allocating portions of the ultimate cost to each plan year. The cost method is thus a budgeting tool to help to ensure that the plan will be adequately and systematically funded and accounted for. There are several commonly-used cost methods which differ in how much of the ultimate cost is assigned to each prior and future year. Therefore, the pattern of annual contributions and accounting expense varies with the choice of cost method. Annual contributions and accounting expense are also affected by the "asset valuation method" (as well as the plan provisions, actuarial assumptions, and actual plan demographic and investment experience each year).

Actuarial Cost Method

The plan's actuarial cost method is the entry age normal method. Under this method, a projected benefit is determined at each active participant's assumed retirement age assuming future compensation increases. The plan's normal cost is the sum of each active participant's annual cost for the current year of service determined such that, if it were calculated as a level percentage of his compensation each year, it would accumulate at the valuation interest rate over his total prior and future years of service to his assumed retirement date into an amount sufficient to fund his projected benefit. The plan's accrued liability is the sum of (a) the accumulation of each active participant's normal costs attributable to all prior years of service plus (b) the present value of each inactive participant's future benefits.

Because of Act 106-2017, no future benefits (except for the additional benefits due to death or disability for reasons specified in Act 127-1958) will be earned by PRGERS members. As a result, the GASB 67 Total Pension Liability equals the present value of all non-Act 127-1958 projected benefits. In future years, the normal cost will only reflect the anticipated future Act 127-1958 benefits.

Asset Valuation Method

The Market Value of Assets.

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PUERTO RICO GOVERNMENT EMPLOYEES RETIREMENT SYSTEM

SECTION VIII – SUMMARY OF ACTUARIAL METHODS AS OF JUNE 30, 2017

Liability Determination

The results as of June 30, 2017 are based on projecting the System obligations determined as of the census data collection date of July 1, 2016 for one year using roll-forward methods, assuming no liability gains or losses.

Changes in actuarial methods since the prior valuation

Due to Act 106-2017, the non-Act 127-1958 benefits are considered fully accrued and the only normal cost going forward will be due to Act 127-1958 benefits.

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